Joint Capabilities Integration and Development System (JCIDS) A Primer

Sources:
- CJCSI 3170.01I, 23 Jan 2015
- CJCSI 5123.01G, 15 Jan 2015
- JCIDS Manual, 12 Feb 2015 with errata 15 Dec 2015
- DoDI 5000.02, 7 Jan 2015
- Joint Staff, J-8

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Topic Areas JCIDS

- The Requirements Environment
- Three JCIDS Process Lanes
- Identifying Capability Requirements
- JCIDS Interaction With the Acquisition Process
- JCIDS Documents
- Performance Attributes
- Document Staffing and Validation
- Urgent/Emergent Threat Lanes
- Rapid Acquisition of Urgent Needs
- Guiding Principles and Challenges

The Requirements Environment

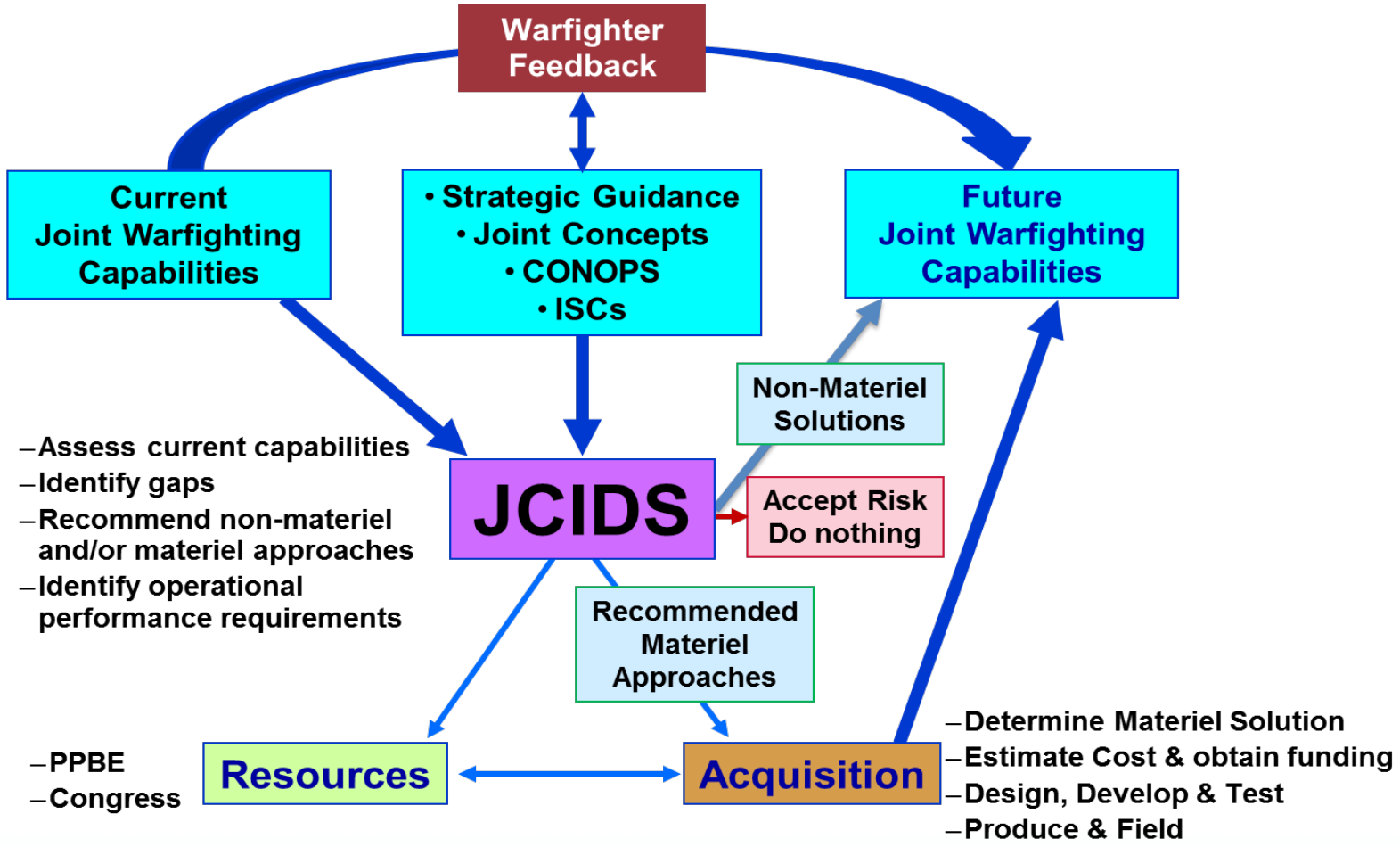
Finding the balance between:		
Combatant Command (CCMD) near-term requirements to support Contingency Plans and current missions	and	Services' long range vision & investment plans
Versatile, joint systems	and	Systems optimized for service missions
Growing demands	and	Fiscal & political constraints
Geographic specificity	and	Worldwide applicability
Ambitious requirements	and	Achievable acquisition strategy
Quantity matters	and	High-end capabilities

Joint Capabilities Integration and Development System (JCIDS)

- The Goal of JCIDS is to…
  - Provide the Joint Force with the capabilities needed to perform across the full range of military operations and challenges
  - Support the JROC in its Title 10 responsibilities
    - Cost, schedule, performance trades
    - Prioritizing joint military requirements in shaping the force
- Supported by…
  - Integrated, collaborative review process
  - Leveraged expertise of all government agencies

JCIDS along with the Defense Acquisition System and the Planning, Programming, Budgeting and Execution process form the principal DOD decision support processes for developing and acquiring capabilities required by the military forces to support the national defense strategy

JCIDS – The Central Process For Capability Solutions



Capability-Mission Lattice 2.0
27 July 2015
(Ends-Ways-Means)

Strategic Guidance
- National Security Strategy
- National Defense Strategy
- National Military Strategy
- National Security Interests
- Unified Command Plan
- Quadrennial Defense Review
- Quadrennial Roles/Missions
- Defense Planning Guidance
- Joint Strategic Capabilities Plan
- Guidance for Employment of the Force
- GFM Implementation Guidance

Missions / Planning / Operations
- Maintain Nuclear Deterrence
- Defense of the Homeland
- Defeat Adversaries
- Global Stabilizing Presence
- Combat Terrorism
- Counter Weapons of Mass Destruction
- Deny Adversary Objectives
- Crisis Response/Limited Contingency Ops
- Military Engagement/ Security Cooperation
- Counterinsurgency and Stability Operations
- Support to Civil Authorities
- Humanitarian Assistance/Disaster Response

ISCs / OPLANS / CONPLANS
C CIO / Other Concepts and CONOPS

Decompose missions into discrete tasks

Universal Joint Tasks (UJTs)

Assess tasks against pacing threats/conditions

Quantified tasks lead to Capability Requirements

Threats/ Conditions
Threat Assessments
- Critical Intelligence Parameters
- Near Peer Competitor
- Rogue Nations
- Non-State Actors
- Weapons of Mass Destruction
- Treaties/Alliances
- Environmental/ Natural Events

Supply of Forces (Global Force Mgmt)

Force Elements (Readiness)
- USA
- USN
- USMC
- USAF
- SOCOM
- CSAs

Service/Joint Exercises
Warfighting / M&S
Joint Lessons Learned
Readiness Reporting

Supply of Capability Solutions

Capability Requirements (Portfolio Management)
- **Force Support**: Force Management, Force Preparation, Human Capital Mgmt., Health Readiness
- **Battlespace Awareness** (SAP): Planning & Direction, Collection, Processing/Exploitation, Analysis/Production, Dissemination/Relay
- **Force App.** (SAP): Maneuver, Engagement
- **Logistics**: Deployment/Distribution, Supply, Maintain, Logistic Services, Operational Contract Supt, Engineering, Base/Installation Support
- **Command and Control** (SAP): Organize, Understand, Planning, Decide, Direct, Monitor
- **Comms & Computers** (SAP): DODIN Capabilities, Enterprise Services
- **Protection** (SAP): Prevent, Mitigate
- **Build Ptnr.**: Communicate, Shape
- **Corporate Management**: Advisory & Compliance, Strategy & Assessment, Information Management, Acquisition & Technology, Program/Budget/Finance

Requirement-to-solution Mismatch (Performance and/or Quantity) Identifies Capability Gap

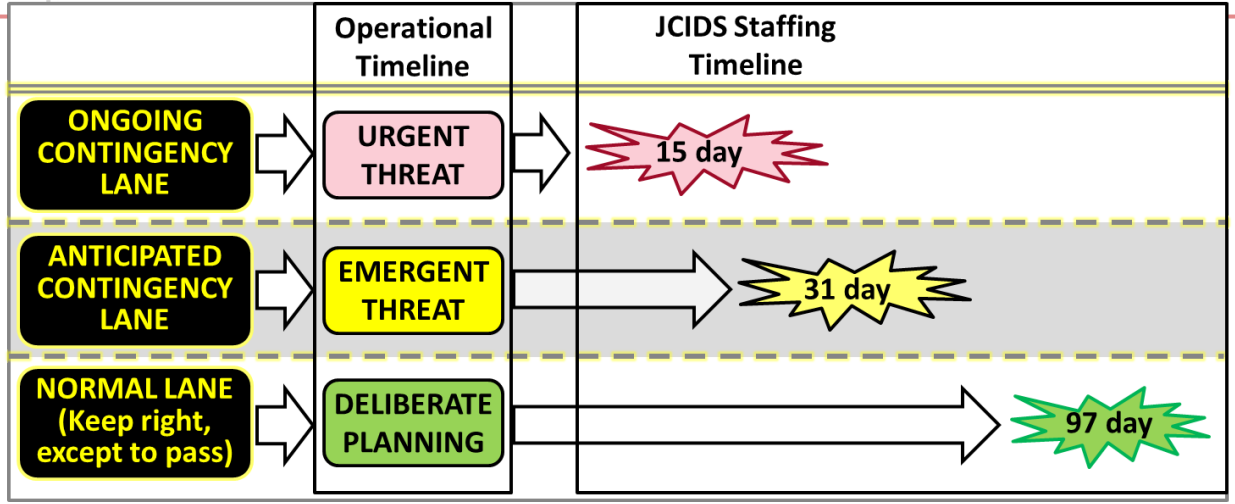
Note: Each CML is a Snapshot in time. Can Be layered for depth

Resources/Investments
- RDT&E
- PROC
- O&M
- MILPERS
- MILCON
- MFP 1
- MFP 2
- MFP 3
- MFP 4
- MFP 5
- MFP 6
- MFP 7
- MFP 8
- MFP 9
- MFP 10
- MFP 11

Capability Solutions (Materiel and Non-Materiel)
- Doctrine
- Organization
- Training
- **Materiel – Research /Acquisition/Sustainment**
  - SAP: Land Systems
  - SAP: Sea Systems
  - SAP: Air Systems
  - SAP: Space Systems
  - SAP: Cyber Systems
  - Logistics
  - Mission Data / Intelligence Mission Data
  - Science & Technology / Research & Engineering
- Leadership/Education
- Personnel
- Facilities
- Policy

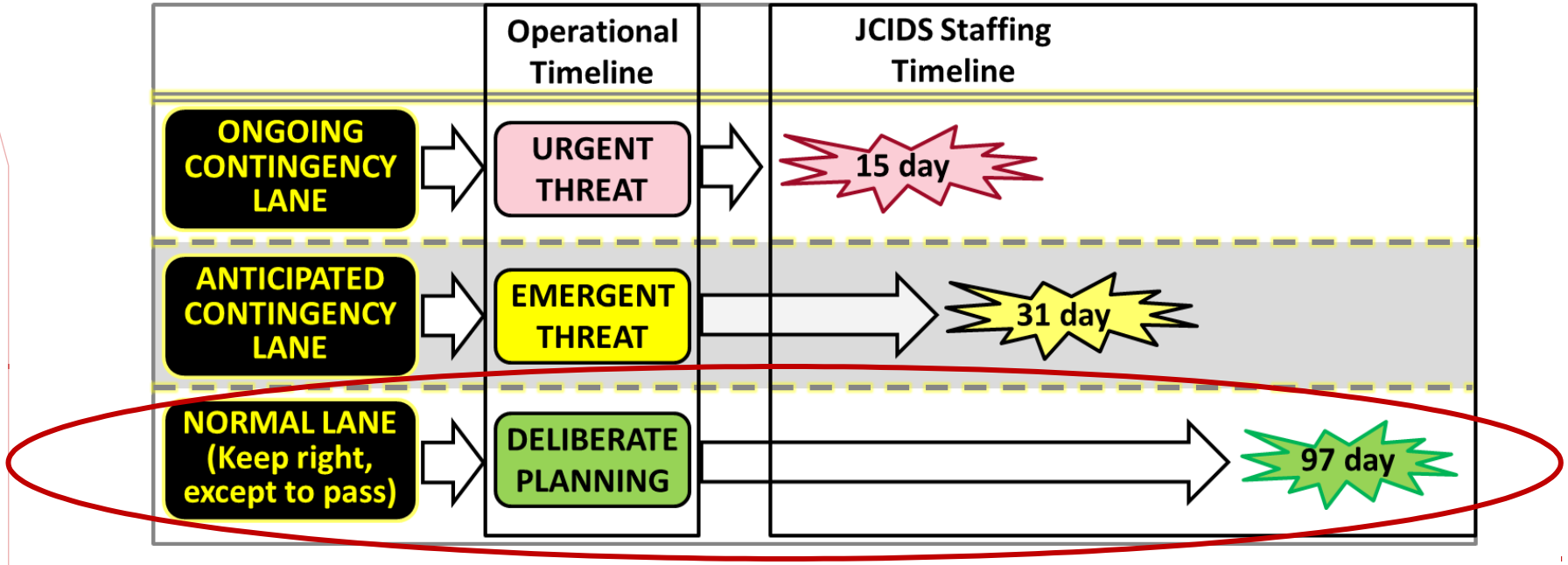
This presentation contains notes pages to supplement most of the charts

Three JCIDS Process "Lanes"



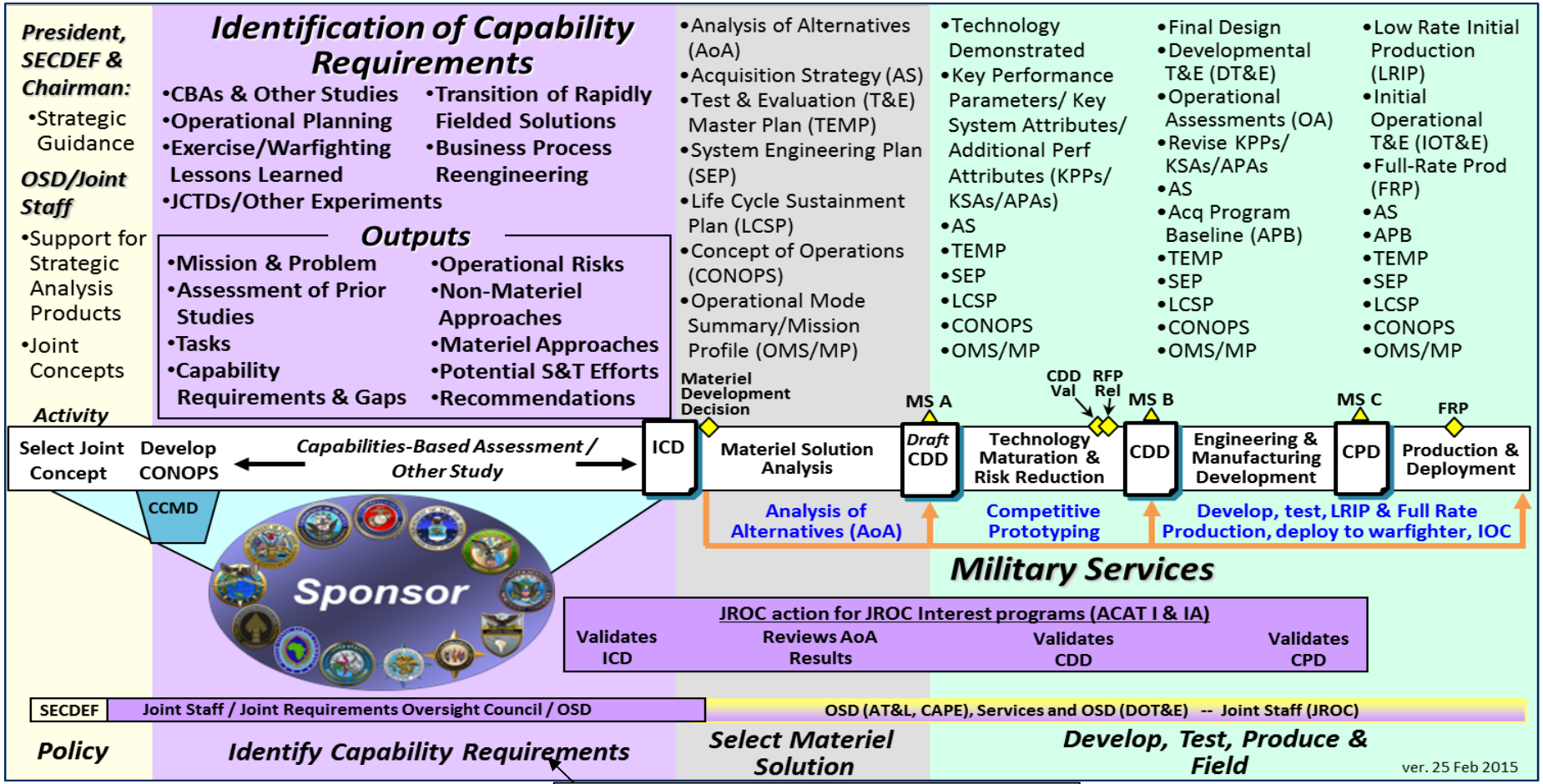
- **Ongoing Contingency Lane - Urgent Threat**
  - Urgent need to prevent loss of life and/or mission failure during current operations
  - Requires little tech development and can be resolved in less than two years
  - CCMD Driven. J-8 Deputy Director for Requirements (DDR) validates
- **Anticipated Contingency Lane - Emergent Threat**
  - Accelerated acquisition needed for an anticipated or pending contingency operation
  - CCMD Driven, VCJCS verifies, JCB or JROC validates
- **Normal Lane - Deliberate Planning**
  - Service, CCMD or Agency Driven. Traditional route for capabilities that require significant tech development and/or are not urgent or compelling in nature

The Normal Lane



- **Normal Lane - Deliberate Planning**
  - Service, CCMD or Agency Driven. Traditional route for capabilities that require significant tech development and/or are not urgent or compelling in nature
  - The next series of charts deal with the normal lane

JCIDS and Acquisition



Getting The Front End Right is Key

Identification of Capability Requirements and Associated Capability Gaps

- **Goal.** To derive and refine capability requirements and associated capability gaps – for which a capability solution must be provided either organically or leveraged through the joint force – to accomplish assigned functions, roles, missions, and operations.
- **Certified Requirements Managers.** Sponsors will use certified requirements managers to monitor and evaluate capability requirement identification, including but not limited to the identification of capability gaps due to changes in threats, missions, or aging of legacy weapon systems throughout their life cycle.
- **Relation to Functions, Roles, Missions, and Operations**. Before any action can be taken in the JCIDS process related to reviewing and validating capability requirement documents, Sponsors must first identify capability requirements related to

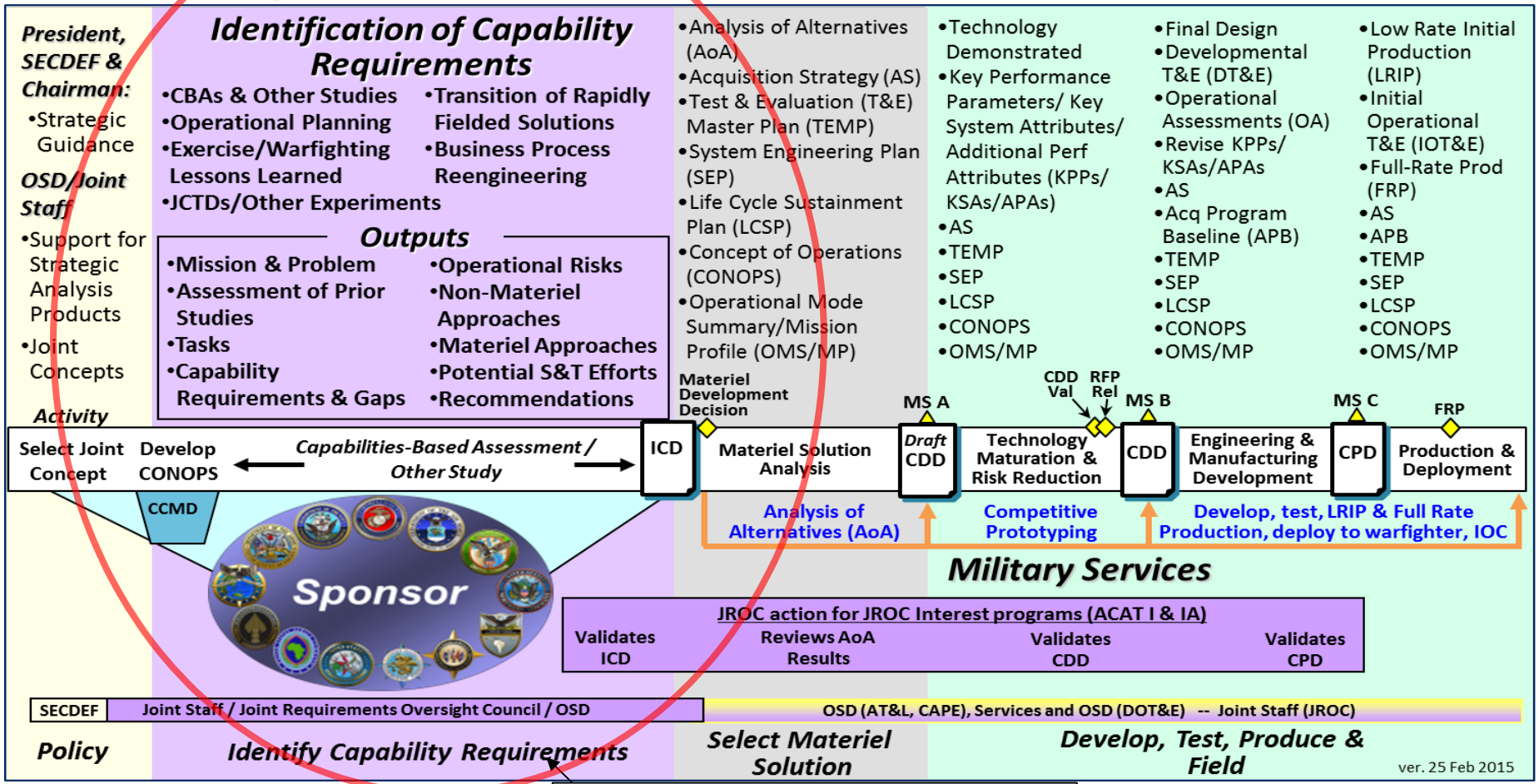
Approaches to Identifying Capability Requirements

- Capabilities-Based Assessments (CBAs) & Other Studies
- Operational Planning
- Exercises/Warfighting Lessons Learned
- Joint Capability Technology Demonstrations (JCTDs) and Other Experiments
- Transition of Rapidly Fielded Capability Solutions
  - Joint Urgent Operational Needs (JUONs), Joint Emergent Operational Needs (JEONs), and DOD Component Urgent Operational Needs (UONs)
  - Joint Improved Explosive Device Defeat Organization (JIEDDO) Initiatives
- Business Process Reengineering

Primary Outputs of Approaches to Identify Capability Requirements

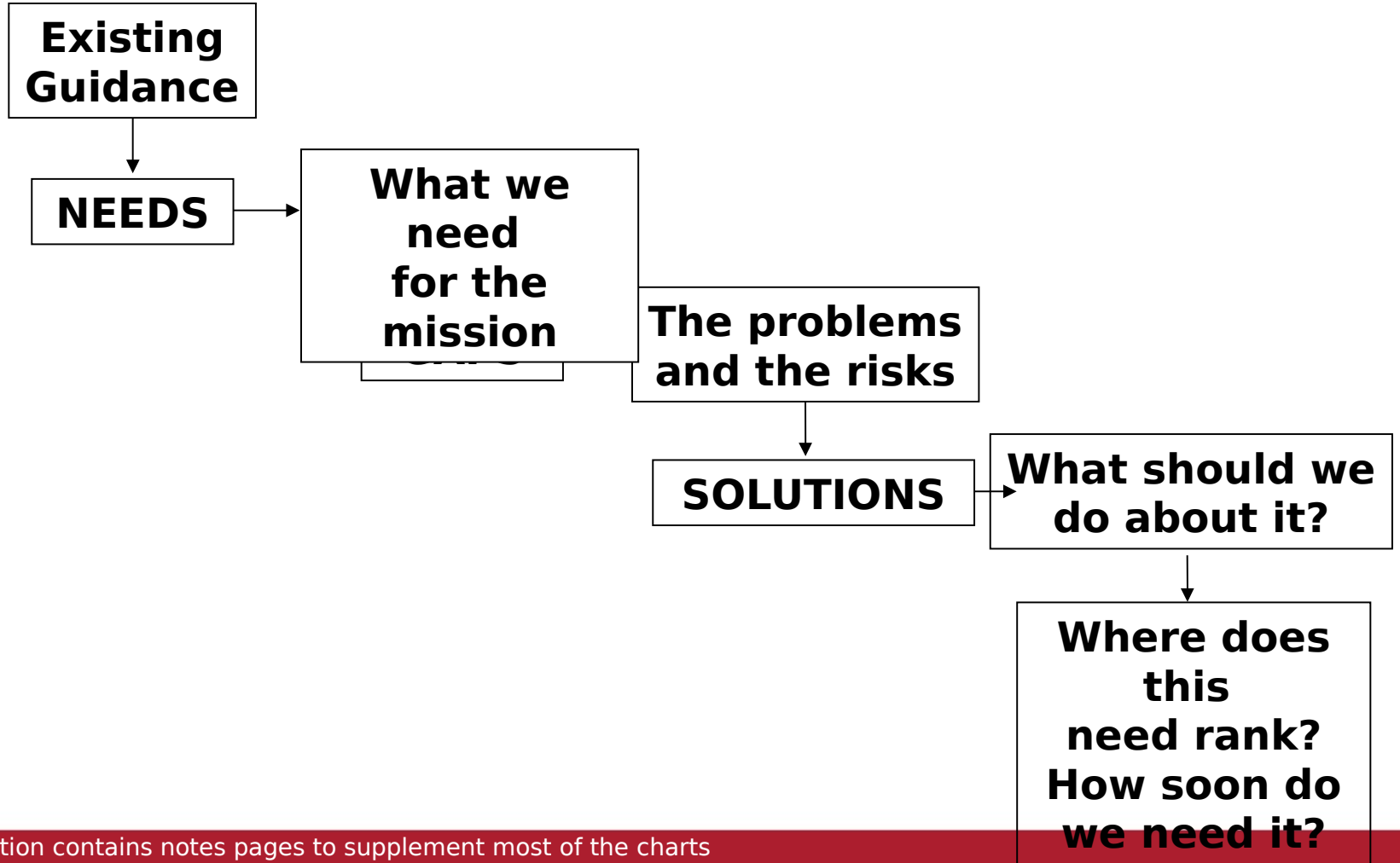
- Mission Description & Problem Being Assessed
- Identification & Assessment of Prior Studies
- Identification of Tasks Required to Meet Mission Objectives
- Identification of Capability Requirements Within One or More Joint Capability Areas (JCAs)
- Assessment of Capability Gaps
  - Between identified requirements and current or programmed joint force capabilities
- Assessment of Operational Risks
- Evaluation of Possible Non-Materiel & Materiel Approaches to Close or Mitigate Gaps
- Evaluation of Current and Potential Future Science & Technology (S&T) Efforts
- Recommendations

JCIDS and Acquisition



Getting The Front End Right is Key

Capabilities-Based Assessment (CBA)


Existing Guidance
NEEDS
What we need for the mission
The problems and the risks
SOLUTIONS
What should we do about it?
Where does this need rank? How soon do we need it?

CBA Outputs

- CBA Documentation:
  - Initial Capabilities Document (ICD)
  - Joint DOTmLPF-P* Change Recommendation (DCR)
- CBA Recommendations for Materiel Approaches:
  - Evolution of previously fielded systems with significant capability improvement, to include information systems
  - Replacement or recapitalization of previously fielded system with significant capability improvement
  - Transformational capability solution(s) that differ significantly in form, function, operation, and capabilities from previously fielded systems
- Managers Must Communicate to Avoid Disconnects Over Seams Between JCIDS, Defense Acquisition System, and PPBE

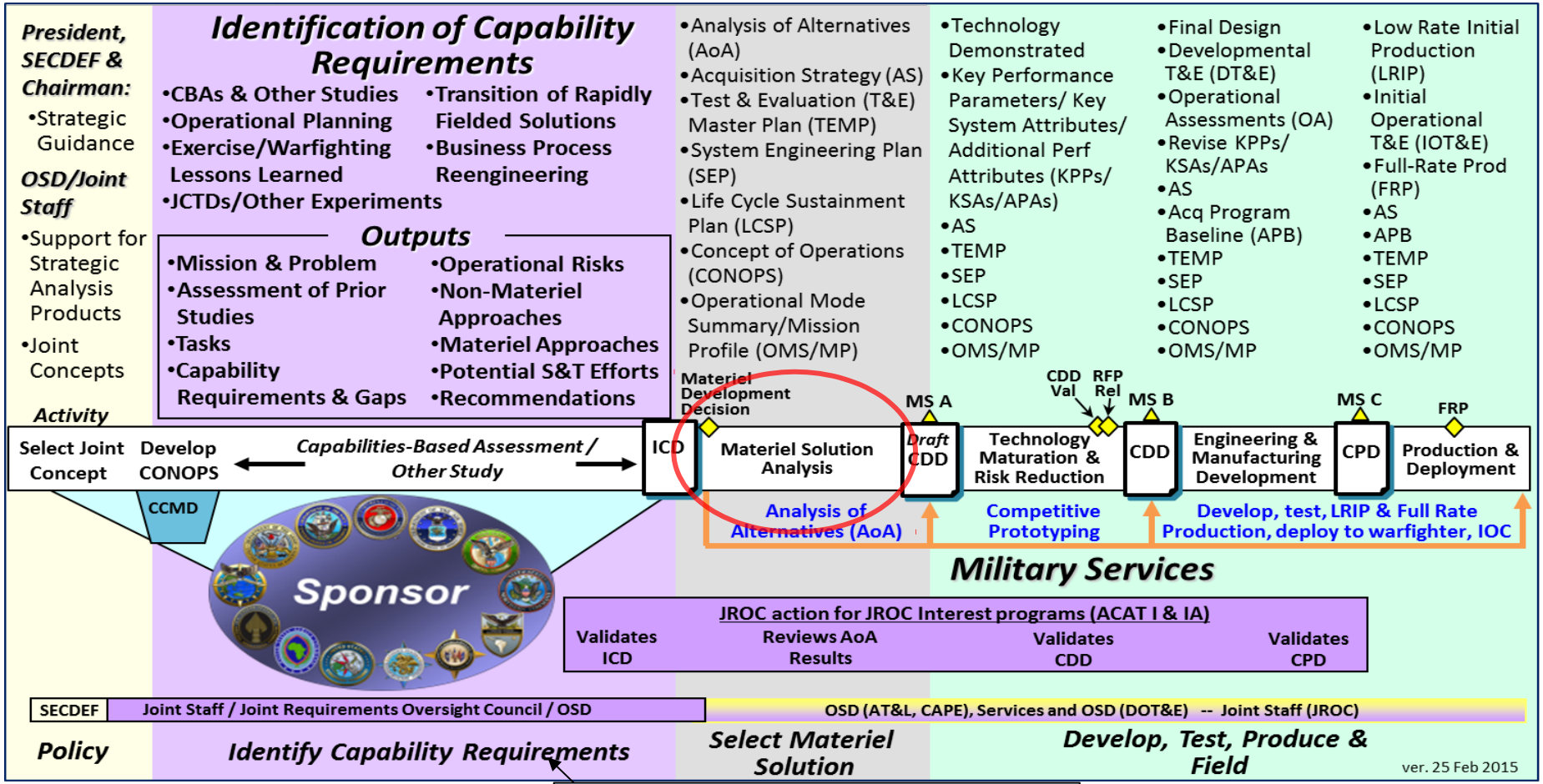
*DOTmLPF-P = Doctrine, Organization, Training, materiel, Leadership and Education, Personnel, Facilities & Policy

CBA Output Document – Joint Non-Materiel Solutions

- Joint DOTmLPF-P Change Recommendation (Joint DCR)
  - To propose *joint* non-materiel solutions as an alternative to, or complement of, materiel solutions
  - Non-Materiel Solutions
    - Alternate concepts and CONOPs
    - Organizational and personnel alternatives to resolve gaps/mismatches between force availability and force needs
    - Training changes that improve effectiveness of existing capabilities
    - Alternate uses of previously fielded materiel
    - Leadership and educational alternatives
    - Use existing facilities in new ways; introduce new facilities or locations
    - Policy alternatives – change policies that contribute to gaps in capability
- Page Limit, Document Body: 30 Pages

For non-materiel solutions which impact only the Sponsor organization, DCRs *are not required* by JCIDS, as DOD Components manage Component specific DOTmLPF-P at their discretion.

JCIDS and Acquisition



Getting The Front End Right is Key

CBA Output Document – Materiel & Non- Materiel Solutions

- Initial Capabilities Document (ICD) (Includes the Information Systems (IS) Variant)
  - Documents Capabilities-Based Assessment (CBA) results
  - Specifies one or more capability requirements and associated capability gaps which represent unacceptable operational risk if left unmitigated
  - Identifies relevant operational attributes
  - Identifies notional resources available over anticipated life cycle
  - Recommends partially or wholly mitigating identified capability gap(s) with a non-materiel capability solution, materiel capability solution, or some combination of the two
  - Supports the Materiel Development Decision (MDD)
  - Predecessor for the Capabilities Development Document (CDD)
- Page Limit, Document Body: 10 Pages

ICD Operational Attributes

- An ICD Identifies Capability Requirements with Associated Initial Objective Values
  - Initial objective values satisfy operational needs while serving as starting point for analysis supporting trade-offs above and below the objective value
  - Represent values necessary to achieve *mission objectives* with moderate operational risk
  - Examples: Outcomes, time, distance, effect, obstacles to be overcome, and supportability
- Guides the Analysis of Alternatives (AoA)
- With AoA results, Guides Development of Key Performance Parameters (KPPs) for Inclusion in the Capability Development Document (CDD)

ICD Variant for Information Systems (IS-ICD)

- IS-ICDs Implement the “Information Technology (IT) Box” Model
- IS-ICDs must be used when applicable for capability requirements documents with JSDs of JROC and JCB Interest. Specifically appropriate for:
  - Procurement or modification of Commercial off the Shelf (COTS)/Government off the Shelf (GOTS) IS products
  - Additional production or modification of previously developed U.S and/or Allied or interagency systems or equipment
  - Development, integration, and acquisition of customized application software
  - Approaches where the solution involves research and development and / or acquisition of applications systems software, and the projected life-cycle costs exceed $15 million
- A

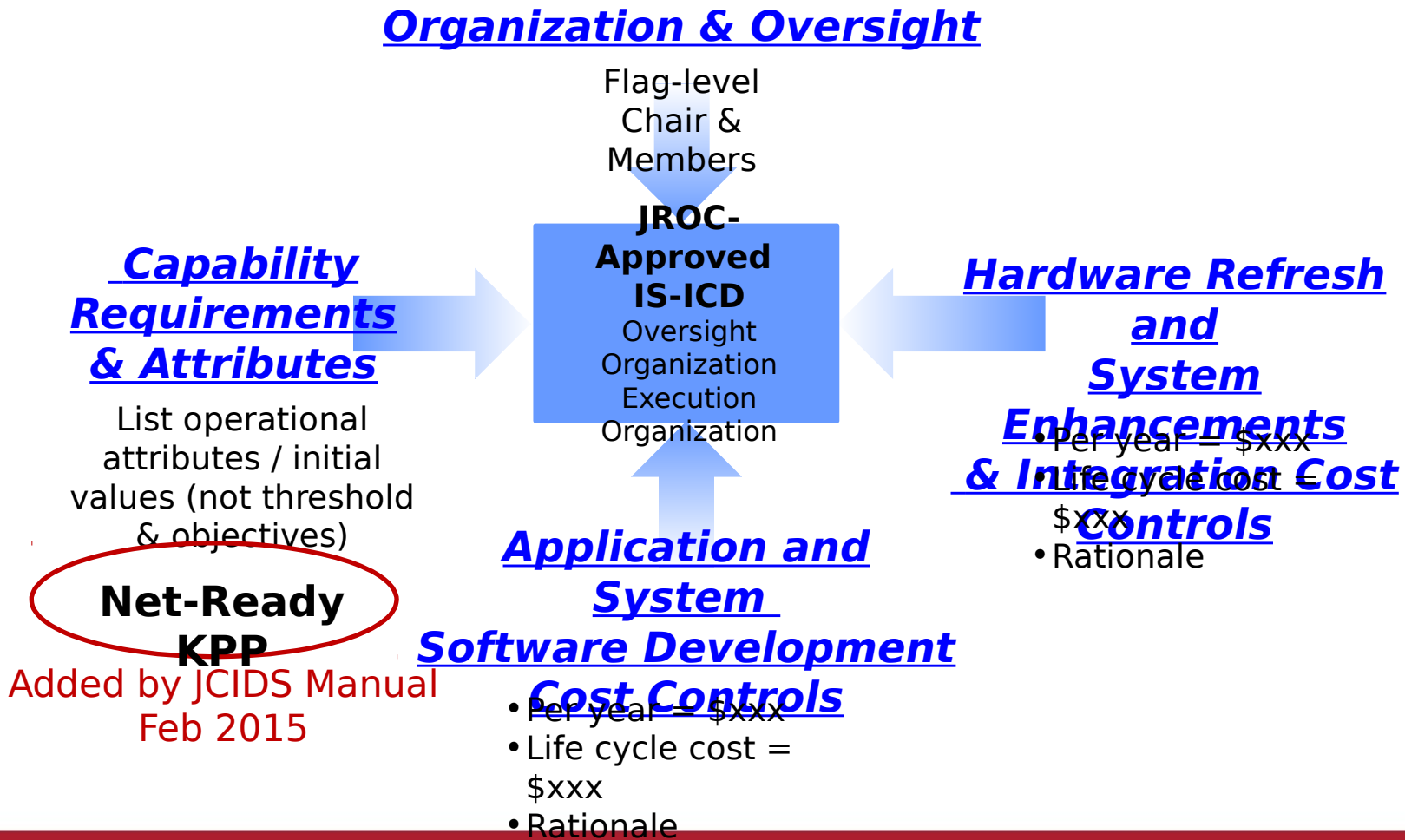
“IT Box” model calls for fewer iterations of validating documents through the JCIDS process by describing the overall IS program in the IS ICD, and delegating validation of detailed follow-on requirement and solution oversight to a flag-level organization other than the JROC or JCB.

When an IS-ICD Is Not Appropriate

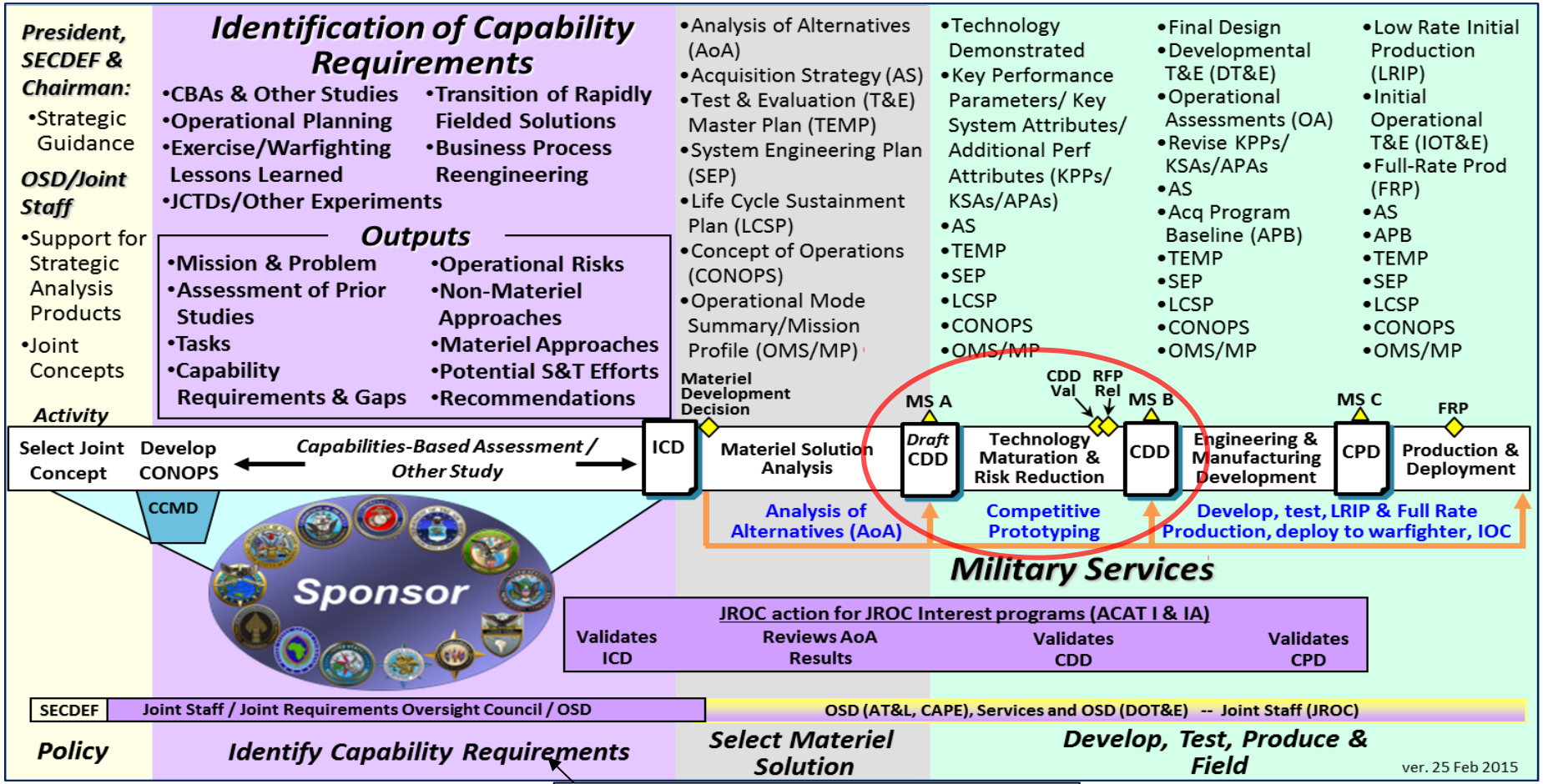
IS-ICDs are NOT Appropriate for:

- Software embedded as a subset of a capability solution developed under other validated capability requirement documents.
  - Software requirements are validated as part of the overall capability solution
- Software requiring a host platform which does not yet have validated capability requirement documents.
  - Software requirements can be included in the capability requirements of the host platform, or as a separate IS-ICD submitted after validation of the host platform capability requirement documents.
- Increases in quantities of previously fielded IS without modification, which are not addressed by an IT Box.
  - Increased quantities may be addressed by a DCR. Increases in quantity which remain within the scope of a previously validated IT Box, may be accomplished without revalidation.

IT Box Components for IS-ICD


Organization & Oversight
Flag-level Chair & Members
JROC-Approved IS-ICD
Oversight Organization
Execution Organization
Capability Requirements & Attributes
List operational attributes / initial values (not threshold & objectives)
Net-Ready KPP
Added by JCIDS Manual Feb 2015
Hardware Refresh and System Enhancements & Integration Cost Controls
• Per year = $xxx
• Life cycle cost = $xxx
• Rationale
Application and System Software Development Cost Controls
• Per year = $xxx
• Life cycle cost = $xxx
• Rationale

JCIDS and Acquisition



Getting The Front End Right is Key

Key JCIDS Document Development

- Capability Development Document (CDD)
  - Proposes development of a specific materiel solution
  - Draft CDD (Sponsor Approved) supports Milestone A and Technology Maturation and Risk Reduction (TMRR) Phase
  - Validated CDD supports Development RFP Release Decision, Milestone B, and EMD Phase
  - Identifies developmental performance attributes:
    - KPPs, Key System Attributes (KSAs), and Additional Performance Attributes (APAs)
    - Other System Attributes, such as Human Systems Integration (HSI), environmental factors, transportability, etc..
    - Attributes should be authoritative, measurable and testable
  - Describes DOTmLPF-P considerations associated with the solution
  - May apply to multiple increments of development
- Page Limit: Document Body 45 Pages

CDD KPPs are inserted verbatim into the APB

CDD Variant for Information Systems (IS-CDD)

- IS-CDD
  - Implements IT Box model used in the IS-ICD
  - May be used where a validated ICD contains capability requirements which can be addressed by a combination of IS and non-IS solution and the IT Box is applicable to the IS portion
  - May be used for MDAP and MAIS programs to comply with statutory requirements for a CDD while allowing for the flexibilities of the IT Box
  - May be used in cases where a validated CDD was generated before the IT Box construct was introduced, and the Sponsor wants to revalidate under the IT Box construct.
- IS-CDDs are appropriate in the same situations where the IS-ICD is appropriate, and are NOT appropriate in the same situations where the IS-ICD is not appropriate.
- Capability Production Documents (CPDs) are not required as successor documents for an IS-CDD – the delegated authority may prescribe alternate document formats

IT Box Components for IS-CDD

KPPs may be quantified in terms of initial performance values rather than objective / threshold values. Same applies to KSAs and APAs used in the body of the IS-CDD

Key Difference In Usage: IS-ICD & IS-CDD

- Key difference in usage of IS-ICDs and IS-CDDs is whether the AoA takes place before or after delegating authorities under the IT Box.

  For an IS-ICD to be appropriate, it must be very clear from the CBA that an IS solution is the only viable approach to be considered.

  The AoA conducted in the MSA phase takes place after delegating authorities under the IT Box and will therefore only consider IS alternatives.

- An IS-CDD is more appropriate when an IS solution is not presumed at the time the ICD is validated and the Materiel Development Decision (MDD) approved, or other materiel and/or non-materiel solution(s) are expected to be necessary along with the IS solution.

  The IS-CDD is a result of the AoA conducted in the MSA

Managing an IS Requirement Using the IT Box Construct

- As the IS-ICD and IS-CDD only streamline the applicable requirements processes, the Sponsor must still ensure compliance with acquisition policy and processes in DoDI 5000.02, and Information Support Plan (ISP) policy and processes in accordance with DoDI 8330.01.
- Since the standard CDD and CPD are not typically required, an IS-ICD or IS-CDD provides Sponsors the flexibility to manage IS requirements with alternate documents and validation processes as necessary, as long as development efforts remain within the boundaries of the validated IT-Box and any additional guidance provided by the validation

Successor Documents for IS-ICDs and IS-CDDs

- CDDs are Not required as successor documents for IS-ICDs; CPDs are Not required as successor documents for IS-CDDs.
  - Sponsors have management flexibility for successor documents
  - JCIDS Manual provides following examples of potential IS ICD/IS-CDD follow-on documents (actual names, content, and approval determined by the delegated validation authority):
    - Requirements Definition Package (RDP) – identifies KPPs, KSAs, and APAs, and non-materiel changes
    - Capability Drop (CD) – lower level document that specifies the characteristics of a "widget" or "app" for partial deployment of the solution
- FCB is briefed Every 2nd Year after validation on progress toward delivering the solution (FCB may recommend elevating to JROC Oversight)

Recommend RDPs and CDs be co-developed by the RM and PM Office

Requirements Definition Packages (RDPs)

- RDP is an example – *It Is Not a JCIDS Document; It identifies performance attributes, it does not contain software specs*
  - Created to show how requirements can be broken into deliverable increments
  - Components define content and approval process
- Provides a more detailed definition of capabilities in the IS-ICD
  - Enables detailed design activity
  - Enables detailed costing of the requirements
- Provides link between the IS-ICD and the acquisition and program budget processes
- Approved by the delegated requirements management authority
  - FO/GO-level body that holds authority over, and provides governance for requirements

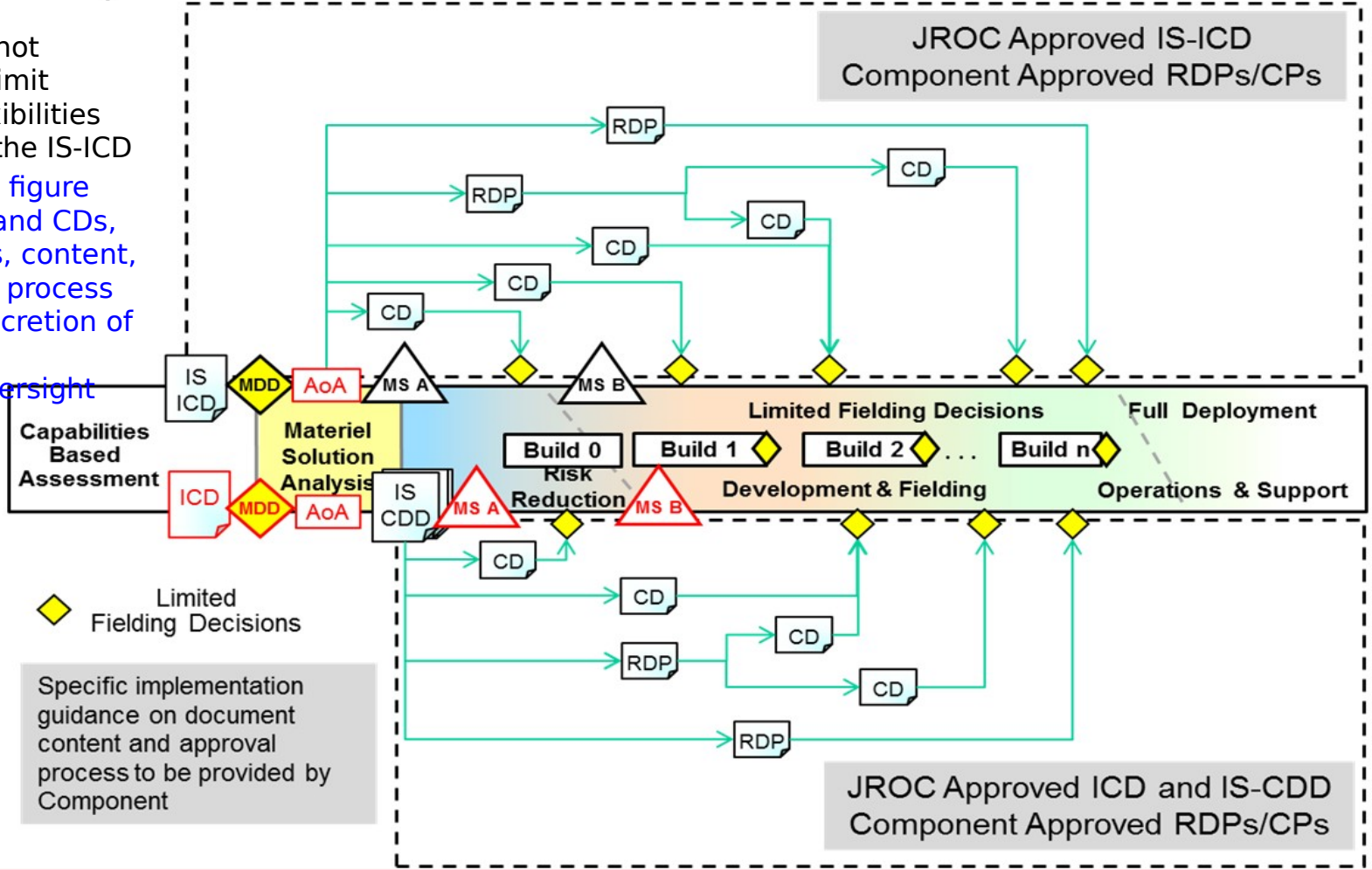
Capability Drops (CDs)

- CD is an Example – *It Is Not a JCIDS Document; It describes performance characteristics, it does not contain software specs*
  - Manages delivery of capabilities through more specifically defined subsets of an RDP
  - The details of how to do this are left to the components and the acquisition process
- The RDP is further broken down into CDs to deliver individual “Widgets” or “Slices” of capability
- The results of CD development are released incrementally through full deployment decisions as they are ready
- Approval may delegated to lowest appropriate level (as determined by the oversight authority) to ensure timely decision making

Example of IS-ICD or IS-CDD Successor Documents

Illustrative - not intended to limit potential flexibilities provided by the IS-ICD or IS-CDD.

Although this figure shows RDPs and CDs, actual names, content, and approval process are at the discretion of the delegated oversight authority.



Configuration Steering Boards (CSB)

"… the Acquisition Executive of each DoD Component will form and chair a CSB with broad executive membership . . ."

DoDI 5000.02, Jan 2015

- **CSBs meet at least annually**
  - Review all requirements changes and significant technical configuration changes with potential for cost and schedule impacts
  - Only approve changes that increase cost if funds identified and schedule impacts addressed.
  - Requirements fall under CSB cognizance once CDD is validated
- The PM (with the PEO) identifies descoping options to reduce program cost or to moderate requirements
- CSB recommends to the requirements validation authority which options should be

Key Performance Parameters (KPPs)

- Performance Attributes of a system critical or essential to development of an effective military capability
- KPPs must be measurable, testable, and support efficient and effective T&E
  - Enable feedback from T&E; support decision making
- Validated by JROC for JROC Interest Documents
  - Change authority generally retained by the validation authority, unless specifically delegated in the validation memorandum.
- Failure to meet a validated KPP threshold triggers a review by the validation authority and evaluation of operational risk and/or military utility of the system(s).
  - Review may result in validation of an updated KPP threshold value, modification of production increments, or recommendation for program cancellation.

Key System Attributes (KSAs)

- Performance attributes considered essential to achieving a balanced solution
- Not critical enough to be selected as a KPP
- Must be measurable, testable, and support efficient and effective T&E
- Identified by the sponsor; should be kept to a minimum
- Change authority delegated to Sponsor, unless retained in document validation memorandum

Additional Performance Attributes (APAs)

- Performance Attributes of a System Not Important Enough to be a KPP or KSA
- Must be measurable, testable, and support efficient and effective T&E
- Identified by the Sponsor; should be kept to a minimum
- Change authority delegated to Sponsor, unless retained in document validation memorandum

Other System Attributes

- Other system attributes not Identified elsewhere in the CDD/CPD, especially those that tend to be design, life cycle cost, or risk drivers.
- May include, but not limited to:
  - Embedded instrumentation, electronic attack, and wartime reserve mode requirements.
  - Human Systems Integration (HSI) considerations.
  - Natural environmental factors, including climatic design type, terrain, meteorological and oceanographic factors.
  - Physical and operational security, including technology security, foreign disclosure, and anti-tamper
  - Weather and oceanographic data accuracy and forecast needs
  - Transportability and deployability considerations
  - Space, weight, power and cooling margin requirements and open system attributes.

Mandatory Key Performance Parameters (KPPs) & Key System Attributes (KSAs)

- Force Protection KPP (all CDDs & CPDs for manned systems)
- System Survivability KPP (all CDDs & CPDs)
- Sustainment KPP (all CDDs & CPDs)
  - Materiel Availability
  - Operational Availability
    - Supporting KSAs
      - Materiel Reliability
      - Operation & Support Costs
- Net Ready KPP (all IS-ICDs and all CDDs & CPDs addressing IS)
- Training KPP (all CDDs & CPDs with training requirements which dictate operational performance characteristics of the capability solution)
- Energy KPP (all CDDs & CPDs where provisions of energy impact operational reach, or protection of energy infrastructure or energy resources is required)

Force Protection (FP) KPP

- Use of the FP KPP in CDDs and CPDs –
  - Expected for all manned systems, unmanned systems which interface with or operate in the proximity of personnel, and for systems designed to enhance personnel survivability
- Force Protection attributes include protection from –
  - Kinetic fires
  - Non-kinetic fires
  - CBRN effects
  - Environmental effects
  - Crash events
- Synergy/overlap with System Survivability (SS) KPP –
  - May include same attributes as the SS KPP, but emphasis is on protecting occupants / other personnel rather than protecting the system itself.
- Exclusion of offensive attributes: Offensive attributes primarily intended to defeat adversary forces before they can engage non-adversary forces are not included as part of the FP KPP.
- Endorsed by the Chair, Protection FCB

System Survivability (SS) KPP

- Applies to all CDDs and CPDs
- System Survivability attributes contribute to the survivability of manned or unmanned systems
- Examples:
  - Speed
  - Maneuverability
  - Armor
  - Electromagnetic Spectrum Control
  - Redundancy of Critical Subsystems
  - Protection from Chemical, Biological and Radiological Effects
- Endorsed by Chair, Protection FCB

Sustainment KPP & KSAs

- Applies to all CDDs and CPDs.
- Elements:
  - Availability KPP: Consists of Materiel Availability and Operational Availability
  - Reliability KSA
  - Operations & Support Cost KSA
- Endorsed by Chair, Logistics FCB in coordination with Joint Staff, J-4 Maintenance Division (J-4/MXD), and the office of the Deputy Assistant Secretary of Defense (Materiel Readiness)

Net Ready KPP

- Applies to all Information Systems (IS) and National Security Systems (NSS) Used in the:

  automated acquisition, Storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of DOD data or information regardless of classification or sensitivity

- Applies to all IS-ICDs, CDDs and CPDs addressing IS.
- Applies to JUON, JEON, and DoD Component UON IS solutions unless an exemption to the Information Support Plan (ISP) is approved in accordance with DODI 8330.01, “Interoperability of Information Technology (IT), Including National Security Systems (NSS)”.
- Not Applicable to Systems That Do Not Communicate With External Systems
- Certified by: Chair, C4/Cyber FCB

Net-Ready KPP, continued

- Net-Ready KPP consists of three attributes:
  - Supports Military Operations
  - Is Entered and Managed on the Network, and
  - Effectively Exchanges Information
- Three-Step Development Process
  - Step 1. Mission Analysis – Determines Attribute Details for "Supports Military Operations"
  - Step 2. Information Analysis – Determines Attribute Details for "Entered & Managed on the Network" and "Effectively Exchanges Information"
  - Step 3. Systems Engineering & Architecture – Supports all 3 attributes

Net-Ready KPP IS-ICD Example

NR KPP Attribute	Key Performance Parameter	Initial Value
Support to military operations	Mission: Tracking and locating (Finding, Fixing, Finishing) High-Value Target (HVT) Measure: Timely, actionable dissemination of acquisition data for HVT Conditions: Targeting quality data to the neutralizing/ tracking entity	≤10 minutes Area denial of HVT activities
	Mission Activities: Find HVT Measure: Location accuracy Conditions: Individual differentiation	100 meter circle Identify armed/not armed
Enter and be managed in the network	Network: SIPRNET Measure: Time to connect to an operational network from power up Conditions: Continuous Network Connectivity	≤2 minutes
	Network: NIPRNET Measure: Time to connect to an operational network from power up Conditions: Continuous Network Connectivity	Up to 2 minutes
Exchange informatio	Information Element: Target Data Measure: Dissemination of HVT biographic and physical data Measure: Latency of data	≤10 seconds ≤5 seconds

Net-Ready KPP CDD/CPD Example

Attribute 1. Supports Military Operations

NR-KPP Attribute	Key Performance Parameter	Threshold	Objective
Support to military operations	Mission: Tracking and locating (Finding, Fixing, Finishing) High-Value Target (HVT) Measure: Timely, actionable dissemination of acquisition data for HVT Conditions: Targeting quality data to the neutralizing/ tracking entity	≤10 minutes Area denial of HVT activities	Near-real-time (≤1 sec) HVT tracked, neutralized
	Mission Activities: Find HVT Measure: Absolute Location accuracy Conditions: Individual	≤100 meter circle at 90% confidence Identify	≤25 meter circle at 90% confidence Identify individual

Net-Ready CDD/CPD KPP Example

Attribute 2. Enter and Managed on the Network

NR-KPP Attribute	Key Performance Parameter	Threshold	Objective
Enter and be managed in the network	Network: SIPRNET Measure: Time to connect to an operational network from power up Conditions: Continuous Network connectivity	≤2 minutes ≥99.8%	≤1 minute ≥99.9%
	Network: NIPRNET Measure: Time to connect to an operational network from power up Conditions: Continuous Network connectivity	≤2 minutes ≥99.8%	≤1 minute ≥99.9%

Net-Ready KPP CDD/CPD Example

Attribute 3. Exchange Information

NR-KPP Attribute	Key Performance Parameter	Threshold	Objective
Exchange information	Information Element: Target Data	≤10 seconds	≤5 seconds
	Measure: Dissemination of HVT biographic and physical data	≤5 seconds	≤2 seconds
	Measure: Latency of data	≥99.8%	≥99.9%
	Condition: NSA certified type 1		
	Condition: Continuous Network connectivity		

Training KPP

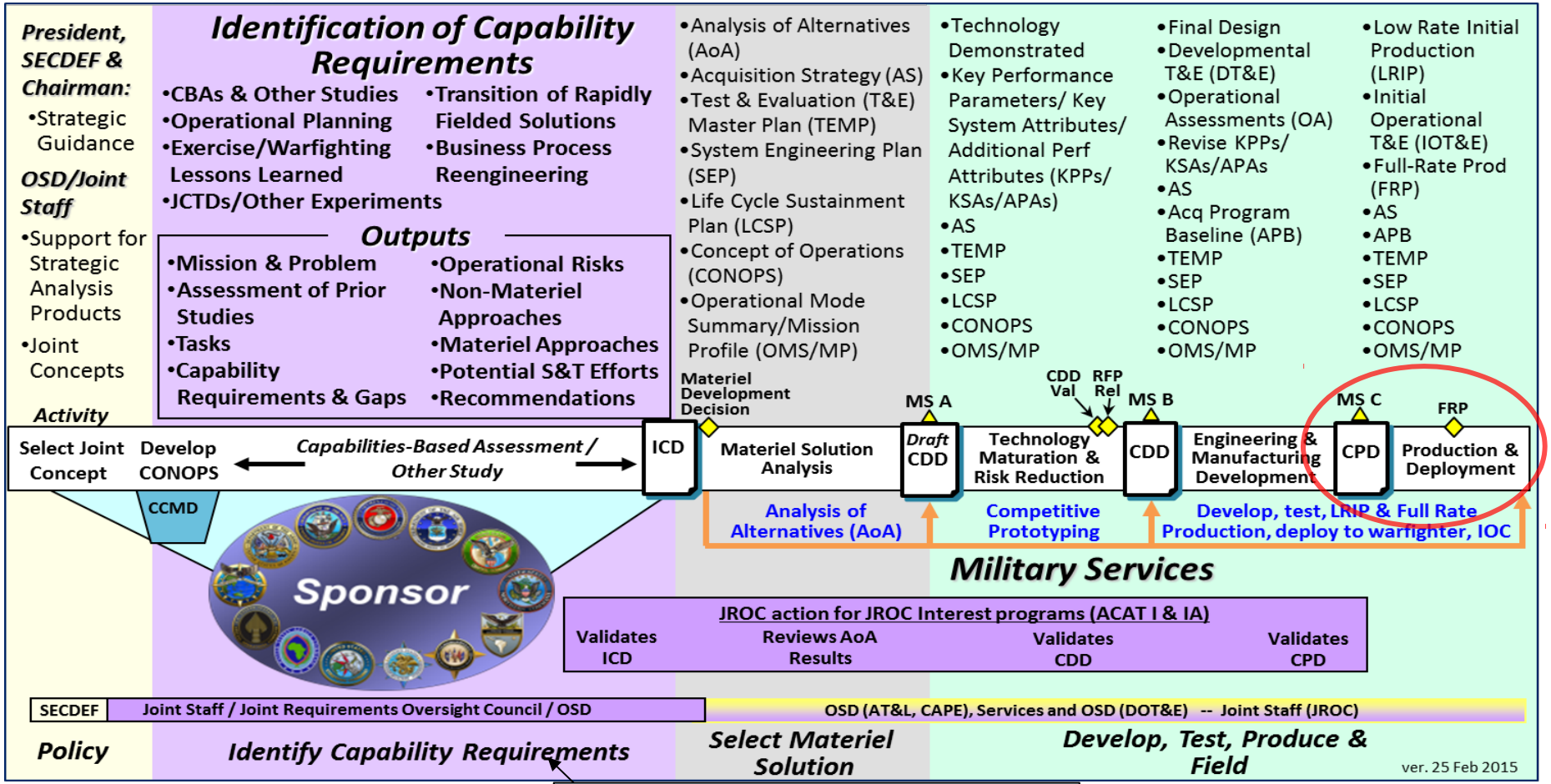
- Applies to CDDs and CPDs that Have System Performance Requirements Necessary to Enable Training Associated with the Materiel Capability Solution.

- Separate Endorsement Not Required.
  - Endorsed as Part of Training Considerations in the DOTmLPF-P Endorsement by Joint Staff J-7, with advice from the Office of the USD (Personnel & Readiness)

Energy KPP

- Applies to systems where the provision of energy, including fuel and electric power, impacts operational reach, or requires protection of energy infrastructure or energy resources in the logistics supply chain
- May be expressed as units of energy used per period of time (e.g. gallons per hour), or as number of refuelings required (e.g. tankings per hour).
- Endorsed by Chair, Logistics FCB, in coordination with Joint Staff J-4 / Engineering Division (J-4/ED)

JCIDS and Acquisition



Getting The Front End Right is Key

Key JCIDS Document
Production

- Capability Production Document (CPD)
  - Proposes production of an increment of a specific materiel solution
  - Supports Milestone C
  - Identifies production performance attributes:
    - KPPs, Key System Attributes (KSAs), and Additional Performance Attributes (APAs)
    - Other System Attributes, such as Human Systems Integration (HSI), environmental factors, transportability, etc.
    - Attributes should be authoritative, measurable and testable
  - Identifies DOTmLPF-P impacts of the solution
  - Does not introduce new requirements
- Page Limit, Document Body: 40 Pages

CPD KPPs are inserted verbatim into the APB

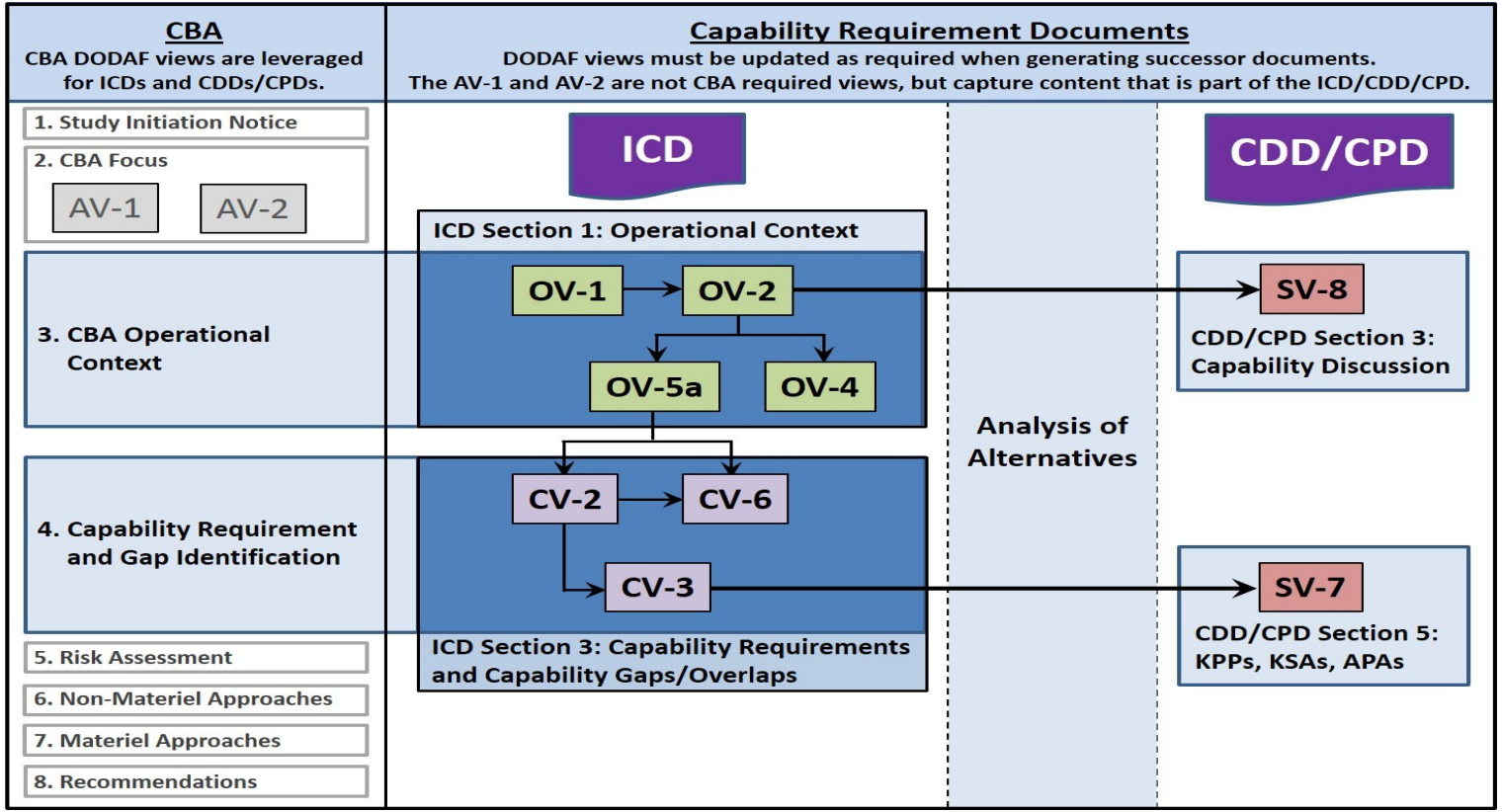
Differences Between the CDD and the CPD

CDD	CPD
Focus on Design & Development	Focus on Production
All Increments	A Specific Increment
Production Representative Articles measured against KPPs/KSAs/APAs	Low-Rate Initial Production articles measured against refined KPPs/KSAs/APAs

Thresholds, Objectives, and Trade Space

- Performance attributes in the CDD and CPD are expressed in threshold / objective Format.
  - Thresholds. Threshold values should be based upon the minimum performance required to achieve the required operational effect, while being achievable through the current state of technology at an affordable life cycle cost of the system.
  - Objectives. Objective values should be defined where an increased level of performance delivers significant increased operational effect, or decreased operational risk, if it can be delivered at an affordable life cycle cost of the system. Not every KPP, KSA, or APA must have an objective value which differs from the threshold value.
- Trade Space. The difference between threshold and objective values sets trade space for balancing multiple KPPs, KSAs, and APAs while remaining above the threshold values.

DOD Architecture Framework (DODAF)
Data Flow, CBA – ICD – CDD/CPD



- This chart illustrates the flow of operational context and capability requirement and gap data gathered during a CBA to the ICD/CDD/CPD.
- See the JCIDS Manual for the full range of required DODAF data for JCIDS documents

JCIDS Document Staffing and Validation

JCIDS Gatekeeper

- J-8, Deputy Director for Requirements (DDR) is the Gatekeeper
- The Gatekeeper:

  Performs an initial review of all JCIDS proposals

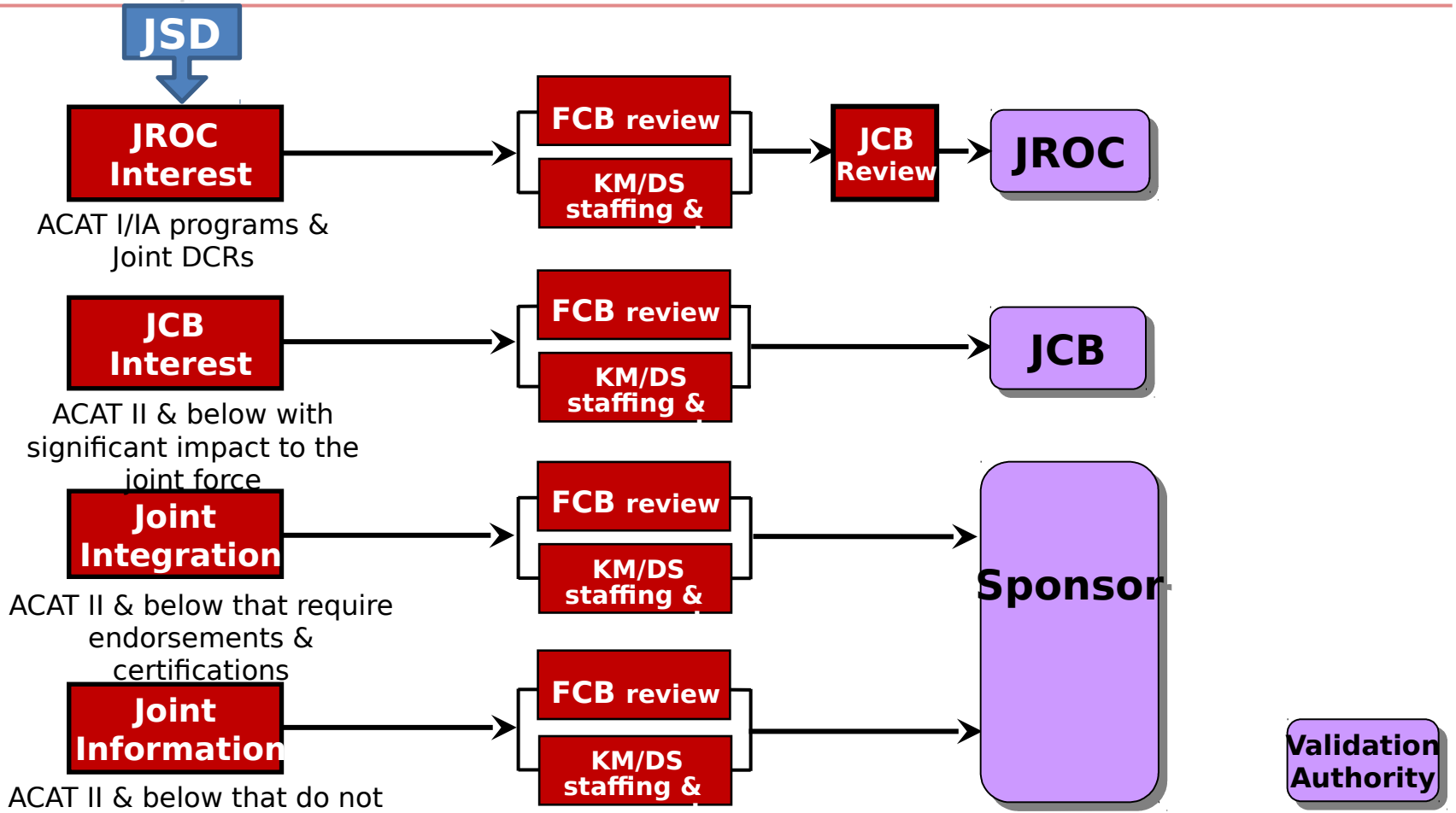
  Gatekeeper determines:

  - Joint Staffing Designator (JSD)
    - » JROC Interest
    - » JCB Interest
    - » Joint Integration
    - » Joint Information
  - Lead and supporting Functional Capability Boards (FCBs)

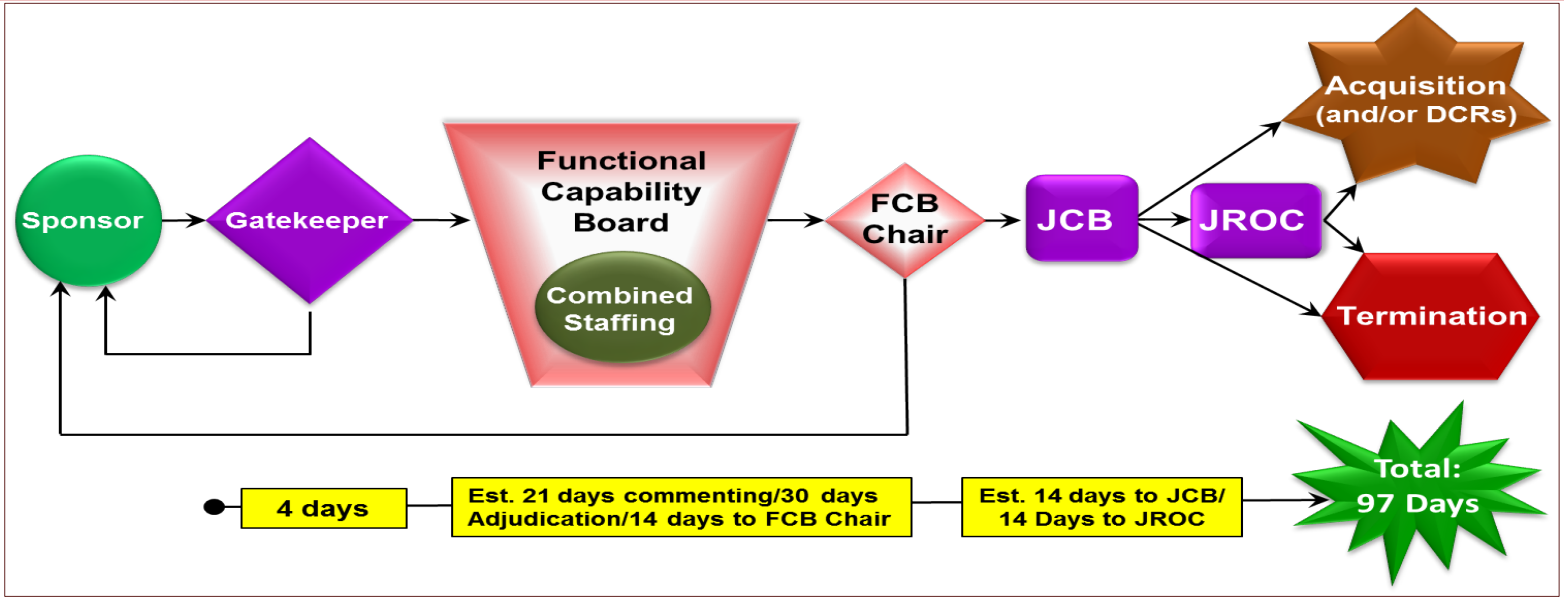
Gatekeeper Makes Joint Staffing Designator (JSD) Decision After Sponsor Posts Document to the Knowledge Management/ Decision Support (KM/DS) Tool

- Formal staffing begins after gatekeeper decisions

JCIDS Document Staffing Tracks



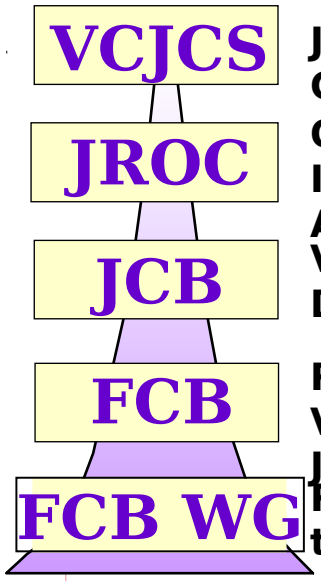
Deliberate Staffing



- Gatekeeper determines JSD and assigns to lead and supporting FCBs
- FCB staffing runs concurrently with stakeholder review and comment
- Sponsor adjudicates comments
- FCB Chair recommends validation/no validation to JCB/JROC
- Validated documents are posted to KM/DS
- ICD, CDD, CPD to appropriate Acquisition Executive for action

JROC Decision Chain

JROC Decision Chain



JROC Chairman; Advises the CJCS

Owns JCIDS; Validates JROC Interest Documents; Final Authority

Validates JCB Interest Documents; Assists JROC

Reviews Documents; Makes Validation Recommendation to JCB / JROC

Reviews Documents Prior to JCB Review

JROC: Joint Requirements Oversight Council
JCB: Joint Capability Board
FCB: Functional Capability Board
FCB WG: Functional Capability Board Working Group

JROC Membership

Chair: VCJCS

Council Members:

- **Vice Chief of Staff, Army**
- **Vice Chief of Naval Operations**
- **Vice Chief of Staff, Air Force**
- **Assistant Commandant of the Marine Corps**
- **Combatant Commands*** (Commander or Deputy Commander)

*Unless otherwise directed to participate by the JROC Chairman, CCMDs representatives are encouraged to participate as voting members when matters related to the area of responsibility or functions of that command will be under consideration by the JROC. USD(AT&L), Dir, CAPE, USD(Comptroller), DOT&E, and USD(Policy) attend as JROC advisors

Joint Capabilities Board (JCB)

- Provides review and endorsement of documents and adjudication of lower level issues prior to JROC validation
- Validates JCIDS documents with a Joint Staffing Designation (JSD) of “JCB Interest”
- JCB Chair: Director, J-8
- JCB Membership: General/Flag Officers, or civilian equivalent, from the military services and combatant commands

USSOCOM has delegated validation authority for Special Operation Peculiar JCIDS documents at the level of JCB Interest and below.

Functional Capabilities Boards (FCBs)

- Provides capability requirement portfolio management, including review and assessment of documents and adjudication of lower level issues within their portfolio prior to JCB review
- Aligned with Joint Capability Areas (JCAs)
- FCB Chair: General/Flag Officer, or Civilian Equivalent
- FCB Lead: Military Officer, 0-6, or Civilian Equivalent
- FCB Membership: Representatives in military grade of 0-6, or civilian equivalent, from Joint Staff, Services, CCMDs, and other organizations with equity in the FCB’s portfolio

Functional Capabilities Boards (FCBs)

Force Support
JS J-8

JCA 1 & 8
Force Support and
Building Partnerships

Battlespace Awareness
JS J-2

JCA 2
Battlespace
Awareness

Force Application
JS J-8

JCA 3
Force
Application

Logistics
JS J-4

JCA 4
Logistics

C4/Cyber
JS J-6

JCAs 5 & 6
Command & Control and Net-

Protection
JS J-8

JCA 7
Protection

JCA 9, Corporate Management, does not have a FCB. Corporate Management issues related to Defense Business Systems are managed by the Deputy Chief Management Officer, along with common gatekeeping processes with JCIDS via the Joint Staff Gatekeeper. Other Corporate Management issues will be handled through one of the listed FCBs with appropriate participation from other organizations.

Functional Capabilities Board Working Groups (WGs)

- Provide initial review and assessment of documents prior to review by the FCB
- Established by the FCB Chair
- FCB WG Lead: Military Officer, 0-6, or Civilian Equivalent
- FCB WG Membership: Military, civilian, or contractor support Subject Matter Experts from Joint Staff, Services, Combatant Commands, and other organizations with equity in the FCB's portfolio.

Other Related Organizations

- In addition to the Gatekeeper, there are several organizations that participate directly with the four levels of boards (JROC, JCB, FCB and FCB WG):
  - Independent Assessment Organizations Within J-8
    - J-8 / Joint Requirements Assessment Division
    - J-8 / Capabilities and Acquisition Division
    - J-8 / Program and Budget Analysis Division
  - FCB General Officer / Flag Officer (GO/FO) Integration Group
  - FCB 06 Integration Group
  - Joint Weapon Safety Technical Advisory Panel
  - Document Sponsor
  - Milestone Decision Authority

Summary of the Deliberate JCIDS Process

- Materiel Solutions
  - Initial Capabilities Document (ICD)
  - Capability Development Document (CDD)
  - Capability Production Document (CPD)
- Non-Materiel Solutions – Joint DOTmLPF-P Change Recommendation (DCR)
- Operational requirements development is a team effort; all stakeholders should be involved; involve the user in technical requirements development

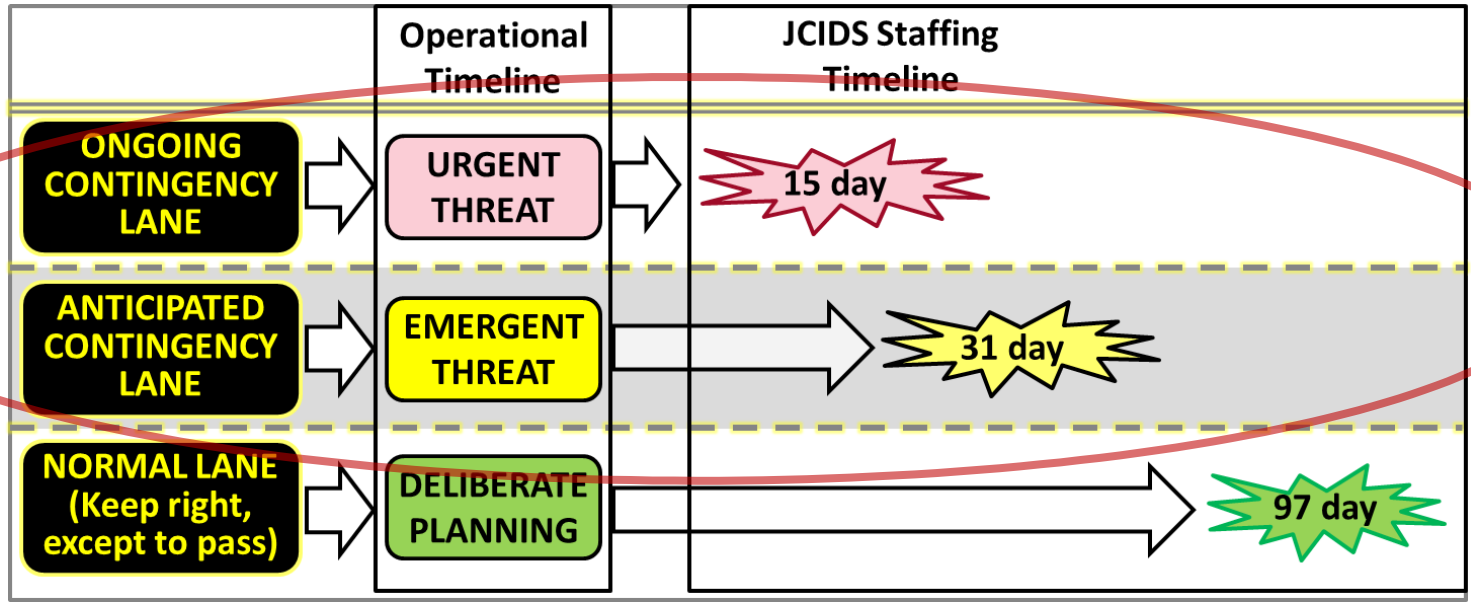
Urgent Needs

Urgent Need Situations

- Urgent and compelling needs during crisis and conflict, or anticipated or pending contingency operation
- Each Service has policies and procedures, but …
- Service-unique approaches do not address theater-wide Joint Urgent and Emergent Operational Needs
- Requirements Managers need to stay engaged in the process

The Warfighter Senior Integration Group (SIG) is the Oversight Body for DoD Urgent Needs
See DoDD 5000.71, 24 Aug 2012

Urgent & Emergent Threat Lanes



The Ongoing Contingency Lane is the
Joint Urgent Operational Needs (JUON) Lane

The Anticipated Contingency Lane is the
Joint Emergent Operational Needs (JEON) Lane

Definitions

- Urgent Operational Need (UON):
  - Capability requirements identified by a DOD Component as impacting an ongoing or anticipated contingency operation. If left unfulfilled, UONs result in capability gaps potentially resulting in loss of life or critical mission failure. DoD Components, in their own terminology, may use a different name for a UON.
- Joint Urgent Operational Need (JUON):
  - UONs that are identified by a Combatant Command as inherently joint and impacting an ongoing contingency operation.
- Joint Emergent Operational Need (JEON):
  - UONs that are identified by a Combatant Command as inherently joint and impacting an anticipated or pending

Who Initiates a JUON or JEON?

- JUONS or JEONS are submitted by a CCMDs or the CJCS/VCJCS
  - While JUONs and JEONs are primarily submitted by the CCMDs, the CJCS/VCJCS may generate a JUON or JEON directly in support of CJCS or VCJCS responsibilities, or to facilitate timely validation of urgent or emergent needs identified by multiple CCMDs or DOD Components.
- CCMD JUONs or JEONs must be endorsed by the CCMD Commander, Deputy Commander, or Chief of Staff.
  - Administrative modifications to previously validated JUONs or JEONs may be endorsed by the CCMD J8.

JUON and JEON Staffing, Validation and Resourcing

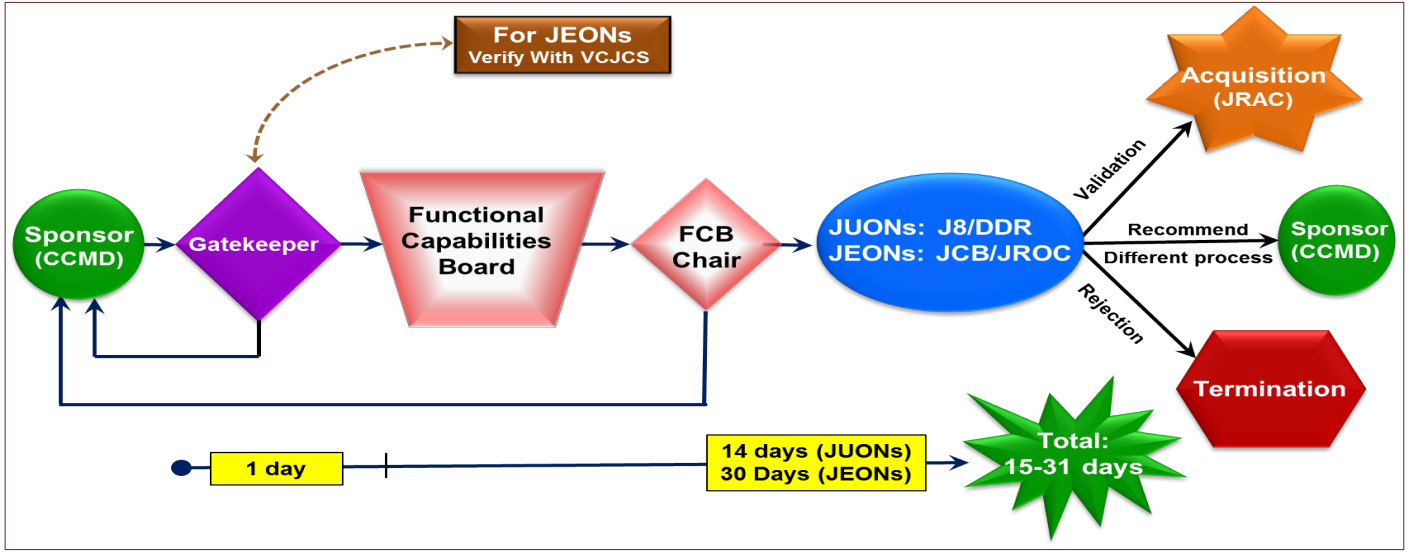
- Goal for staffing and validation of JUONs is 15 days; JEONS is 31 days
- JUON or JEON validation and resourcing Involves
  - Collaborative review by the Lead FCB and the Joint Rapid Acquisition Cell (JRAC)
  - The Gatekeeper (J8 Deputy Director for Requirements (DDR)) Validates JUONs
  - JCB or JROC validates JEONs as determined by VCJCS
  - Solution Sponsor (normally a military department) designated by the JRAC will fund the solution

The Sponsor

- Component (Service or Agency) recommended by the Gatekeeper and named by the JRAC
- The Sponsor develops an initial course of action for JRAC review
  - Implementation Recommendation
  - Funding Strategy Recommendation
- The Sponsor manages the approved JUON / JEON effort

Components will use all available authorities to fund, develop, assess, produce, deploy, operate, and sustain urgent operational need (UON) capabilities expeditiously
(DoDD 5000.71)

JUON and JEON Staffing



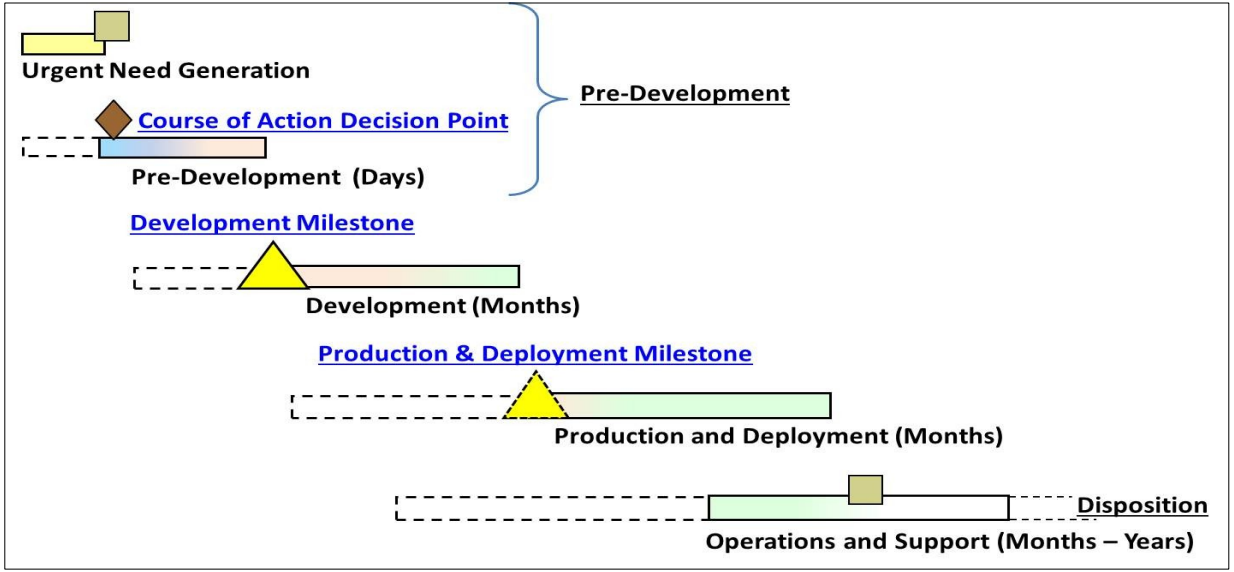
- Staffing begins when Gatekeeper receives the document
- Gatekeeper has 1 day to review and assign to Lead FCB
- JEONs confirmed by Gatekeeper with VCJCS; VCJCS assigns JCB or JROC as validation authority
- Lead FCB & Joint Rapid Acquisition Cell (JRAC) assess validity of JUON/JEON and identify potential solutions (if possible – ultimate solution will be determined post-validation)
- FCB Chair & JRAC make recommendation for or against validation
- Validation is communicated to JRAC, who designates a solution sponsor to rapidly fund, develop, acquire, field and sustain a solution
- If not validated, validation authority notifies JUON/JEON sponsor

JUON and JEON Follow-On Activities

- Quarterly Review.
  - The Joint Staff Gatekeeper, together with the JRAC, reviews validated JUONs and JEONs quarterly to assess progress toward fielding capability solutions in a timely manner
- Assessment of Operational Utility
  - The original requirement Sponsor will generate an assessment of the capability solution no later than six months after initial delivery to facilitate transition, sustainment, or alternate approaches.
- Biannual Review.
  - Unless withdrawn earlier by the validation authority or requirement Sponsor, the validation authority reviews validated JUONs and JEONs two years after the validation

Rapid Acquisition of Urgent Needs

DoDI 5000.02, Encl. 13



- Pre-Development: Assess and select a course or courses of action
- Development Milestone: MDA determines if can be fielded within 2 years; does not require substantial development effort; approves release of RFP
- Development: MDA, in consultation with the user, determines what deficiencies must be resolved and what risks can be accepted
- Production Milestone: MDA decides whether to produce and deploy the system
- Production and Deployment: Capability is provided to the warfighter
- Operations and Support: Urgent need is sustained over its anticipated life cycle
- Disposition: 1. Terminate 2. Sustain for Current Contingency 3. Transition to Program of Record

JUON and JEON Assessment Conclusion

- JUON or JEON Assessment of Operational Utility Conclusion Categories
  - Failure / Limited Success. The solution does not provide operational utility satisfying the capability requirements in the JUON or JEON.
  - Success / Limited Duration Requirement. The solution satisfies the urgent/emergent capability requirement for the limited duration purposes identified in the JUON or JEON
  - Success / Enduring Requirement. The solution satisfies the urgent/emergent capability requirement for the limited duration purposes identified in the JUON or JEON, but also provides enduring capabilities that should remain in the joint force

Disposition Analysis (DoDI 5000.02)

- No later than 1 year after the program enters O&S (or earlier if directed by the DoD Component), the DoD Component will appoint an official to conduct a Disposition Analysis
- The disposition official will recommend one of the following options:
  - Termination: Demilitarization or Disposal
  - Sustainment for Current Contingency
  - Transition to Program of Record
- DoD Component head and the CAE will review the recommendation and a transition decision will be recorded in a Component Head Disposition Determination

Transition to Program of Record (PoR)

- Who decides if a solution to an Urgent Operational Need must enter the formal acquisition process?
  - ACAT I – Defense Acquisition Executive (DAE) makes the PoR decision
  - ACAT II or below – Component Acquisition Executive (CAE) / Service Acquisition Executive (SAE) makes the PoR decision
- May need Materiel Development Decision (MDD) depending on:
  - Status of procurement
  - If the fielded solution needs additional development
- Funding for additional quantities and sustainment is Service responsibility

Challenge of Rapid Acquisition

- ★ **Future Focused**
- ★ **Very Structured Process**
- ★ **Evolved Requirements**
- ★ **Analysis of Alternatives**
- ★ **Lengthy Development**
- ★ **High Visibility on Program**
- ★ **Large Investment**

Deliberate

immediate

- **Now-focused**
- **More ad hoc process**
- **Broad requirement**
- **Quick assessment of alternatives**
- **Limited development**
- **High visibility on results**
- **Limited investment**
- **Very Limited Feedback**
- **Transition to PoR**

Urgent Operational Need Summary

- An urgent / emergent situation that may result in
  - Loss of life and/or
  - Critical mission failure
- Each service has its own approach to urgent needs that are not joint
- JUONs / JEONs document joint urgent needs
- Requirements Managers need to be involved with follow-on activities

Waivers

- Waivers can be used for:
  - Request to submit a CDD without an ICD (ICD waiver is not required to submit a Joint DCR without a preceding ICD)
  - Request to submit a CPD without a preceding ICD and/or CDD
  - ICD and/or CDDs may be waived in cases where it is best to proceed directly to MS B or C (GOTS/COTS solutions, transitioning UONS/JUONS, successful JCTDs, etc..
  - Tripwire relief – when a sponsor does not believe a tripwire review is necessary.
- J-8/DDR is the approval authority for:
  - ICD, CDD and tripwire waiver requests
  - Deviations from processes described in the JCIDS Manual

Guiding Principles

- **Know the requirements**– the requirements/acquisition community should not only clearly understand the requirements, but should be actively engaged with the user in establishing realistic and achievable requirements within budget constraints.
- **Question the requirements** – if a requirement doesn't make sense, question it – the answer may be surprising.
- **Are the requirements realistic** – is it physically possible to meet the requirement? Can it be tested? Is an 80% solution adequate and field the remaining 20% when technology is mature enough?
- **Beware of derived requirements** – an engineer's "derived" technical requirement can take on a life of it's own; keep focused on the user's operational requirements.
- **Tech Reviews** – JCIDS sponsor/user should attend PDR and CDR to answer questions on operational requirements.
- **Configuration Steering Boards (CSBs)** – PM has the authority to recommend descoping options and to object to new requirements after MS B, unless approved by the CSB. Must be coordinated with the requirements professionals

Requirements Challenges

- Gaming the System by Specifying the Solution too Early
- Incomplete or Rushed Analysis
- Vague/Poorly Written Requirements
- Good Briefings Based on Poor Documents
- Confusing Requirements with Specifications
- Not Following Up on Results of DAS Reviews and T&E results
- Requirements Creep (Operational & Technical)
- Misusing the Urgent/Emergent Requirements Determination Processes
- Cost and Schedule Estimates Based on Incomplete or Poorly Written Requirements (Operational and Technical)